IN THE CLAIMS

Cancel Claims 1, 5, 12 and 14-22 and 28. Re-write Claims 2, 4, 6, 7, 10, 11, 13, 23, 24, 27 and 29.

1. (Currently Canceled)

2. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising:

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer;

a second pre-metal dielectric layer located over the light-absorbing structure;

a first metal layer located over the second pre-metal dielectric layer; and

~~The pre-metal dielectric structure of Claim 1, further comprising~~ a barrier film located between the SONOS memory transistor and the first pre-metal dielectric layer.

3. (Original) The pre-metal dielectric structure of Claim 2, wherein the barrier film comprises silicon nitride.

4. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising: ~~The pre-metal dielectric structure of Claim 1~~

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer, wherein the light-

absorbing structure comprises a continuous layer of polycrystalline silicon;

a second pre-metal dielectric layer located over the light-absorbing structure; and

a first metal layer located over the second pre-metal dielectric layer.

5. (Currently Canceled)

6. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising: ~~The pre-metal dielectric structure of Claim 1,~~

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer, wherein the light-absorbing structure comprises a first patterned layer of polycrystalline silicon;

a second pre-metal dielectric layer located over the light-absorbing structure; and

a first metal layer located over the second pre-metal dielectric layer.

7. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising: ~~The pre-metal dielectric structure of Claim 6, wherein the light absorbing structure further comprises:~~

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer, the light-absorbing structure comprising:

a first patterned layer of polycrystalline silicon;

a second patterned layer of polycrystalline silicon; and

an intermediate pre-metal dielectric layer located between the first and second patterned layers of polycrystalline silicon;

a second pre-metal dielectric layer located over the light-absorbing structure; and

a first metal layer located over the second pre-metal dielectric layer.

8. (Original) The pre-metal dielectric structure of Claim 6, wherein the first patterned layer of polycrystalline silicon comprises a plurality of polycrystalline silicon islands.

9. (Original) The pre-metal dielectric structure of Claim 8, wherein the polycrystalline silicon islands are separated by spacing corresponding to the minimum design rule spacing.

10. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising: ~~The pre-metal dielectric structure of Claim 1~~

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer, wherein the light-absorbing structure comprises amorphous silicon;

a second pre-metal dielectric layer located over the light-absorbing structure; and

a first metal layer located over the second pre-metal dielectric layer.

11. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising:

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer;

a second pre-metal dielectric layer located over the light-absorbing structure; and

a first metal layer located over the second pre-metal dielectric layer;

~~The pre-metal dielectric structure of Claim 1,~~ wherein the first and second pre-metal dielectric layers comprise barrier films adjacent to the light-absorbing structure, wherein the barrier films suppress out-diffusion of impurities from other portions of the first and second pre-metal dielectric layer to the light-absorbing structure.

12. (Currently Canceled)

13. (Currently Amended) A pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor comprising: ~~The pre-metal dielectric structure of Claim 12, further comprising~~

a first pre-metal dielectric layer located over the SONOS memory transistor;

a light-absorbing structure located over the first-pre-metal dielectric layer;

a second pre-metal dielectric layer located over the light-absorbing structure;

a first metal layer located over the second pre-metal dielectric layer;

one or more contact openings formed through the first and second pre-metal dielectric layers and the light-absorbing structure, wherein the contact openings expose one or more surfaces of the light-absorbing structure; and

sidewall dielectric material located on the one or more exposed surfaces of the light-absorbing structure.

14. (Currently Canceled)

15. (Currently Canceled)

16. (Currently Canceled)

17. (Currently Canceled)

18. (Currently Canceled)

19. (Currently Canceled)

20. (Currently Canceled)

21. (Currently Canceled)

22. (Currently Canceled)

23. (Currently Amended) A method for fabricating a pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor, the method comprising:

forming a first pre-metal dielectric layer over the SONOS memory transistor;

forming a light-absorbing structure over the first-pre-metal dielectric layer;

forming a second pre-metal dielectric layer over the light-absorbing structure;

forming a first metal layer over the second pre-metal dielectric layer; and

~~The method of Claim 22, further comprising~~ forming a silicon nitride barrier film over the SONOS memory transistor and below the first pre-metal dielectric layer.

24. (Currently Amended) A method for fabricating a pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor, the method comprising:

forming a first pre-metal dielectric layer over the SONOS memory transistor;

forming a light-absorbing structure over the first-pre-metal dielectric layer ~~The method of Claim 22~~, wherein the light-absorbing structure is formed by depositing a first layer of polycrystalline silicon over the first pre-metal dielectric layer;

forming a second pre-metal dielectric layer over the light-absorbing structure;

forming a first metal layer over the second pre-metal dielectric layer;

25. (Original) The method of Claim 24, further comprising the step of patterning the first polycrystalline silicon layer.

26. (Original) The method of Claim 25, wherein the light-absorbing structure is further formed by:

depositing an intermediate pre-metal dielectric layer over the patterned first polycrystalline silicon layer;

depositing a second layer of polycrystalline silicon over the intermediate pre-metal dielectric layer; and

patterning the second polycrystalline silicon layer.

27. (Currently Amended) The method of Claim 25, wherein the step of patterning comprises creating a plurality of polycrystalline silicon islands from the first polycrystalline silicon layer, wherein ~~the~~ spacing between the polycrystalline silicon islands corresponds to a minimum design rule spacing.

28. (Currently Canceled)

29. (Currently Amended) A method for fabricating a pre-metal dielectric structure for a silicon-oxide-nitride-oxide-silicon (SONOS) memory transistor, the method comprising:

forming a first pre-metal dielectric layer over the SONOS memory transistor;

forming a light-absorbing structure over the first-pre-metal dielectric layer;

forming a second pre-metal dielectric layer over the light-absorbing structure;

forming a first metal layer over the second pre-metal dielectric layer;

forming one or more contact openings through the first and second pre-metal dielectric layers and the light-absorbing structure, wherein the contact openings expose one or more surfaces of the light-absorbing structure; and

~~The method of Claim 28, further comprising~~ forming sidewall dielectric material on the one or more exposed surfaces of the light-absorbing structure.